4 DATA INPUT AND OUTPUT

4.1 INPUT DESCRIPTION

Data input to the SFWMM is accomplished via data files in regular text (ASCII) and binary formats (grid_io and HECDSS). The SFWMM uses the basic American Standard Code for Information Interchange (ASCII) 128-character set. Grid_io is a binary format consistent with a general software library for storing and retrieving two-dimensional data. This library was developed in-house by Perkins (1991) and subsequently modified by Van Zee (1993). It is a collection of C routines which read, write and search a binary data file containing a time series of information (typically stages or flow vectors) assigned to all grids in a two-dimensional convex grid network; while the cells are uniform rectangles, the grid boundary need not be rectangular. HECDSS or DSS, on the other hand, stands for Data Storage System developed by the Hydrologic Engineering Center of the U.S. Army Corps of Engineers (USACE, 1994). It was designed for storing and retrieving data most commonly used in water resources applications. By using a block of sequential data as a basic unit of storage, DSS results in a more efficient access of time series or other uniquely related data (USACE, 1991). In the SFWMM, it is primarily used to store discharge information for most of the structures simulated in the model. A brief description of all input files read by the model is given in the following listing.

ASCII Format

ALTWMM	=	input data locator file; contains explicit location (full pathname) of input files required to run the SFWMM (~0.4 Kb)
asrinput.dat	=	ASR input data set (~.1 Kb)
brfrfm	=	WCA-3A rainfall and ET data to be used for optional computation of ENP rainfall formula water deliveries (~117 Kb)
canal22	=	cell location of each canal (~12 Kb)
caoflpts	=	outflow structure properties for all water conservation areas (~3 Kb)
cndta22	=	physical parameters for each canal (~37 Kb)
dlylkdta	=	daily historical Lake Okeechobee Service Area hydrometeorological data (~1.2 Mb)
eaa_canal_profiles	=	water surface elevation profile information for major EAA canals(~22 Kb)
kflpts2	=	flow point definition file (~2 Kb)
lec_et.cf	=	control file for Lower East Coast unsaturated zone accounting (~0.5 Kb)
lecdef	=	model definition file: general parameters such as start date, length of simulation, time step, areal extent, landuse types, ET, overland and seepage parameters, and output and other simulation options (~8 Kb)
max_go_tbl	=	table of maximum allowable gate openings for S-354, S-351 and S-352 (~4 Kb)
mlketrf	=	total monthly historical LOK pan ET and rainfall data (~8 Kb)
oper_sched_holy	=	time series of stages to be used as schedule for Holeyland (~2Kb)
pet6590	=	daily reference ET for the ten weather stations used to assign reference ET for each grid cell in the model (~714 Kb)

petweights = weights assigned to each grid cell corresponding to each weather station used in reference ET calculations (~113 Kb)

statdta = model static data defined for each grid cell: land surface elevation, storage coefficient, land use, canal basin identifier, initial groundwater stage, aquifer depth, aquifer permeability, infiltration rate, acreage for six irrigation use types, effective root zone depth, max. soil moisture holding capacity, fraction of urban landscape irrigation receiving water from public water supply wells, fraction of golf course irrigation receiving water from treated wastewater (~216 Kb)

trginput.dat = trigger module input file (~9 Kb)

well_ind_rss = pumpage for industrial and residential, self-supplied pumpage for each of the 12 months of a year (~83 Kb)

welldat = historical wellfield pumpage for public water supply; daily pumping rate by month (~1.6 Mb)

welprdt = simulation wellfield pumpage for public water supply; daily pumping rate for each of the 12 months of a year (~128 Kb)

Grid_io Format

daily_rainfall.bin = daily rainfall time series data, in/day (~76.6 Mb)

daily_et_input.bin = daily crop PET, unsaturated zone ET for irrigated and non-irrigated cells east of the East Coast protective levee (~60.9 Mb)

daily_nirrdmd.bin = daily net irrigation demands for six irrigation use types (~121.7 Mb)

HECDSS Format

flo.dss = known (historical) daily time series of structure discharges, cfs (~5.8 Mb)

dmdro2x2.dss = daily demand and runoff time series, acre-ft/day (~2.3 Mb)